

Application No.: 09/888,644

Docket No.: 503.40291X00

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An image display apparatus having a display unit comprised of a plurality of pixels and a control unit for controlling the display unit, further comprising:

a DA converter to convert the digital display data into an analog image signal, wherein said DA converter is comprised of a first DA converter and a second DA converter, each of the first and second DA converters being connected to said display unit separately from one another so that said first DA converter and said second DA converter can respectively supply an output to the display unit independently of one another, power consumption when said first DA converter is operated being smaller than that when said second DA converter is operated,

wherein said DA converter operates either one of said first DA converter and said second DA converter according to the instruction from said control unit, and outputs the converted analog image signal from said one of said first and second DA converters to said display unit independently of the other of the first and the second DA converters, and

wherein said display unit changes the number of the independent display pixels of said display unit according to the instruction from said control unit, and displays according to said analog image signal.

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2. (Previously Presented) A image display apparatus according to claim 1, wherein a gate line shift register to control the scanning of the display unit is connected to said display unit, said control unit outputs the instruction to said gate line shift register, and the number of independent display pixels of said display unit is changed by the gate line shift register, and a image is displayed.

3. (Previously Presented) A image display apparatus according to claim 2, wherein said control unit gives an instruction to said DA converter and the gate line shift register according to a mode switch instruction.

4. (Original) A image display apparatus according to claim 3, wherein said mode switch instruction has a first mode for carrying out the conversion processing by said first DA converter and a second mode for carrying out the conversion processing by said second DA converter, a pixel of said display unit is arranged corresponding to the region enclosed by plural gate lines and plural signal lines arranged to intersect with the plural gate lines, the gate line shift register controls at least two gate lines of said plural gate lines at the same timing in said first mode, and said first DA converter outputs one converted analog image signal to at least two signal lines.

5. (Original) A image display apparatus according to either one of claims 1 to 3, further comprising two memories each having different capacity,
wherein the two memories correspond to said first DA converter and said second DA converter, respectively.

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6. (Original) A image display apparatus according to claim 5, wherein said display unit, said DA converter, said gate line shift register, and the memory having small capacity among said memories are arranged on the same substrate, and the memory with small capacity is formed by using polysilicon.

7. (Original) A image display apparatus according to claim 6, wherein said memory with small capacity corresponds to said first DA converter, and the memory with large capacity corresponds to said second DA converter.

8. (Currently Amended) A image display apparatus according to either one of claims 1 to 4, 6 and 7, wherein said first DA converter and said second DA converter each convert the input signal into an analog image signal with different number of bit, respectively.

9. (Previously Presented) A image display apparatus according to either one of claims 1 to 4, 6 and 7, wherein said first DA converter and said second DA converter each convert the input signal into an analog image signal with different maximum drive frequency, respectively.

10. (Previously Presented) A image display apparatus according to either one of claims 1 to 4 and 6 to 9, wherein said first DA converter outputs an analog image signal with binary gradation.

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11. (Previously Presented) A image display apparatus according to either one of claims 1 to 4 and 6 to 10, further comprising an illumination means for supplying light to said display unit,

wherein the illumination means supplies light to said display unit in a second mode.

12. (Currently Amended) A image display apparatus comprising:

a display unit comprised of plural pixels;

a control unit to control the display unit;

the image display apparatus further comprising a DA converter to convert digital display data into an analog image signal,

wherein said DA converter includes a first DA converter and a second DA converter, each of the first and second DA converters being connected to said display unit separately from one another so that said first DA converter and said second DA converter can respectively supply an output to the display unit independently of one another, and

wherein said first DA converter and said second DA converter each convert the input signal into an analog image signal with different numbers of bits, respectively.

13. (Original) A image display apparatus according to claim 12, wherein either one of said first DA converter and said second DA converter converts digital data into an analog image signal in accordance with an instruction from said controller.

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14. (Previously Presented) A image display apparatus according to claim 13, wherein said control unit gives an instruction to either one of said first DA converter and said second DA converter in accordance with a mode switch instruction.

15. (Original) A image display apparatus according to either one of claims 12 to 14, further comprising two memories each having different capacity,

wherein the two memories correspond to said first DA converter and said second DA converter, respectively.

16. (Previously Presented) A image display apparatus according to either one of claims 12 to 14, wherein said display unit, said DA converter and the gate line shift register are arranged on the same substrate, the shape of said display unit is rectangular, and the first DA converter and the second DA converter of said DA converters are arranged in the top and bottom of said display unit.

17. (Original) A image display apparatus according to claim 15, wherein the memory with small capacity of said two memories is arranged on the said substrate, and the memory with small capacity is formed with polysilicon.

18. (Previously Presented) A image display apparatus according to claim 15, wherein said mode switch instruction has a first mode for carrying out the conversion processing by said first DA converter and a second mode for carrying out the conversion processing by said second DA converter, and wherein said memory

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with small capacity corresponds to said first DA converter, and the memory with large capacity corresponds to said second DA converter.

19. (Previously Presented) A image display apparatus according to either one of claims 13 and 14, wherein said display unit changes the number of the independent display pixels of said display unit according to the instruction from said control, and displays according to said analog image signal.

20. (Previously Presented) A image display apparatus according to any one of claims 12 to 14, wherein said first DA converter outputs an analog image signal with binary gradation.

21. (Previously Presented) A image display apparatus according to any one of claims 12 to 14, further comprising an illumination means for supplying light to said display unit,

wherein the illumination means supplies light to said display unit in said second mode.

22. (Currently Amended) A image display apparatus comprising:
a display unit comprised of plural pixels;
a control unit to control the display unit;
the image display apparatus further comprising a DA converter to convert digital display data into an analog image signal.

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wherein said DA converter includes a first DA converter and a second DA converter, each of the first and second DA converters being connected to said display unit separately from one another so that said first DA converter and said second DA converter can respectively supply an output to the display unit independently of one another, and

wherein said first DA converter and said second DA converter each convert the input signal into an analog image signal with different frame frequencies, respectively.

23. (Original) A image display apparatus according to claim 22, wherein either one of said first DA converter and said second DA converter converts digital data into an analog image signal in accordance with an instruction from said controller.

24. (Currently Amended) A image display apparatus according to claim 23, wherein said control unit gives an instruction to either one of said first DA converter and said second DA converter in accordance with a mode switch instruction.

25. (Original) A image display apparatus according to either one of claims 22 to 24, wherein said first DA converter outputs an analog image signal with binary gradation.

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26. (Currently Amended) A image display apparatus according to either one of claims 22 to 24, further comprising an illumination means for supplying light to said display unit,

wherein the illumination means supplies light to said display unit in a second mode.